

# M I R R O R

## STUDENTS' REPOSITORY.

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### EDUCATION A DISCIPLINE.

To facilitate the progress of intellectual improvement, and render the acquisition of knowledge speedy and agreeable, is an object which has excited much attention among the friends of education. Instructors, and authors of text books, have spared no efforts to improve the method of communicating to the learner a knowledge of the various branches he may be pursuing. Plans of study have been devised, school books have been simplified, modes of recitation prescribed, and schemes for recreation and exercise recommended. The countless variety of text books, charts, and manuals of recent publication, bear witness to the interest which has been felt on this subject.

Great improvements have doubtless been made both in the manner of instruction, and in the character of the school books of the present day; yet it still remains true, and ever will, that the cultivation of the mental powers is a *toil*. The faculties of the mind never can be under a proper control, until they have been subjected to a process of discipline. Even the command of the attention often requires of the young scholar, repeated efforts, and no little perseverance. There is inseparable from the early efforts to subdue the mind, an indescribable restlessness, a roving of the attention which no facilities for study can ever remove.

The tendency of the age, however, is to *ultraism*; and there have been those, who in their zeal for reform, have announced as a valuable discovery, that education may be made a recreation.—Many works on the different branches taught in our schools have been written in accordance with this absurd theory; and many teachers adopting the same puerile doctrine have *simplified*, and *simplified* the knowledge they could communicate, until it "has lost its substance, and become a painted shadow." It is admitted that the subjects to which the attention of the young pupil is directed, should always be within his comprehension; that explanations on the part of the instructor should be frequent, clear and illustrative; and that the hardship, and toil of study, should be re-

lieved by every proper indulgence, and encouraged by judicious commendation. But education is from its very nature a *discipline*, and necessarily involves severe, and long continued labor. Few truths are sustained by more abundant proofs, than that man was designed for effort. Existence itself imposes upon every individual important obligations, the proper discharge of which requires constant, and oftentimes arduous exertions. Both our physical, and our intellectual natures can be developed, and perfected only by exercise. Our subjection to the laws of nature, our continual exposure to want, and the necessity of constant conflicts with the material world, aid in the growth of the one;—and earnest, incessant, but well directed effort, patient toil, and the vigorous exercise of all the mental powers constitute the true elevation of the other. "Man," says Dr Channing, "owes his growth, his energy, chiefly to that striving of the will, that conflict with difficulty, which we call effort." Vigor of mind, depth of thought, and energy of purpose and character, are found only in those who have submitted to vigorous discipline, and grappled with obstacles which at first repelled their utmost exertions.

Besides, it is a great mistake to suppose, as many do, that in order to make study agreeable to the young, *difficulties* must be as much as possible removed out of the way. On the contrary, it is in teaching them to *surmount* difficulties that we shall most readily excite and sustain an interest in the pursuit of knowledge. All, who have noticed the peculiarities of childhood, are aware that children delight as much in exercising their minds, as their limbs, when their efforts are directed to what is suited to their capacity. Hence we believe that much of the "Art of Teaching" consists, not in saving the scholar all trouble and labor, by explaining every thing to him, but in possessing sufficient discernment to distinguish where, and how far the knowledge, and mental powers of the learner are sufficient for the performance of his task, and where, and how far his own aid is required. The instructor who can do this, will not fail to arouse in his pupils a desire for knowledge, and a love for study.

On the other hand, if no new ideas, no new principles are presented; and no fresh opportunities for effort, and the exercise of skill occur to the young student, his interest ceases, and he relapses into habits of indifference and inactivity.

We have more than once been a witness of the pernicious effects of "simplifying and making easy" the studies pursued in our common schools.—The teacher commences a recitation, perhaps in Colburn's arithmetic. A question is proposed to a lad of a dozen years of age:—"How much will six pounds of meat cost, at seven cents a pound?" Here sufficient data is given in the question for its solution, and it is presented to him in that form in which it will occur to him in the subsequent business of life. But if the pupil does not make a speedy reply,—the teacher by way of explanation commences a series of interrogatories. He inquires, "How many are six times seven?" The boy still hesitates. The teacher now proceeds to analyze—"How many are seven and seven, three times seven;" and so continues, until the answer is arrived at;—but the pupil has now lost sight of the conditions of the question, and knows not why, or for what purpose, such a result has been obtained! It is evident, that where such a system of instruction is pursued, the object of study is well nigh utterly lost. Let then, every teacher of the young remember that, while it is his province to enable the scholar to *comprehend* the nature of difficulties which baffle his ingenuity, and, if necessary, to point out the way in which these obstacles may be overcome,—yet he should not, through the mistaken idea of making study a pastime, render it an indifferent and useless exercise. For, the object of education, is not so much to give a certain amount of knowledge, as to awaken the faculties, to teach the mind to think justly and strongly, to give dignity and elevation to the character, to refine the manners, to open new, pure and exalted sources of happiness, and to prepare man for his ultimate and glorious destination. G.

Every school house that is built,—every child that is educated, are new and additional pledges of our national perpetuity.—*Prof. Taylor.*

Build good school houses, employ competent teachers, and anon, we may inscribe upon our prison doors:—"For rent."—*Ohio paper.*

He who cannot put his *mark* upon a student, is not fit to have one.—*Dr. Wayland.*

Few idle and refractory scholars can be reclaimed by their instructors, without the co-operation and support of their parents.

### QUALITIES OF A SUCCESSFUL INSTRUCTOR.

Of the numerous duties of the school teacher, that of enabling the pupil to *thoroughly understand* each principle as he advances, and to comprehend the meaning and reason of each process, is of primary importance. While we deprecate that species of instruction which so simplifies learning as to prevent all original discovery, and investigation on the part of the scholar,—we are ready to acknowledge, that no teacher can be successful, unless he possesses the power of clear and forcible illustration. To set before the young and unpractised mind an abstruse principle, so distinctly and vividly, as to place it within the scope of its feeble and immature reason, requires tact and skill, as well as knowledge; and we apprehend that more instructors are deficient in this qualification, than in any other. In the first place, the satisfactory explanation of a difficult subject demands an intimate acquaintance with it on the part of the teacher, together with practice and experience in the communication of ideas. In addition to this, many instructors, and those too, of high attainments, and varied knowledge, do not realize, that what is clear as day to them, is all “Cimmerian darkness” to their pupils; and they conduct their recitations, just as if they were imparting information to intellects already matured, and disciplined. They seem to recognise no distinction between their own capacity, and that of the young beginner, and appear to have forgotten that they, themselves, were once children. When the difficulties of the youthful scholar are thus underrated, he readily perceives that his efforts are not appreciated, and exhausted by painful and unavailing exertions, he becomes disheartened, in view of the insurmountable obstacles before him. Vigorous application under such circumstances is not to be expected; and it is then that apt and simple explanations are needed to encourage the desponding pupil, and allure him onward to alacrity, and perseverance. We recollect in our own school-boy days what a flood of light was sometimes opened upon our mind by a simple well-timed, and luminous illustration.

The school teacher must also expect to find among his scholars, those who are slow of comprehension, dull, and apparently stupid. So wayward and thoughtless are they, that they seem to perceive no delights, no excellence, in knowledge. To kindle the spark of thought in such an one, is the high privilege of the instructor. Yet it is a work which requires the exercise of patience, and ingenuity; and it is here, that he, who in the discharge of his duties, is actuated by feelings of forbearance, of affection and sympathy has a manifest superiority. But there are those, who, from indiscretion, or from vexation at being troubled, treat real incapacity and innocent weakness, as if it were a positive crime. We can hardly find language to express our disapprobation of such a

course, and our contempt for such a teacher. Certainly, it is enough that the child is deficient in intellectual endowment, without being railled at, and sometimes even beaten for it. Sympathy and encouragement, in such an instance, is called for rather than scorn and reproach. We fear that the youthful mind, under the weight of such discouragements, sometimes sinks into an apathy from which it is never awakened.

Finally we hold the occupation of the teacher to be, though often an unrequited, yet an arduous and pre-eminently responsible station; and we regard it as one of the noblest ends to which true learning can devote itself.

### INTERESTS OF EDUCATION.

I apprehend that among the prominent causes of the inefficiency of common schools, are the negligence of parents, and the want of qualifications in teachers. There are many other incidental causes, that might be mentioned, but of them I shall have occasion to speak, while treating of the manner of teaching particular branches. The negligence of parents, on this subject, is even proverbial; and too justly so. Many, if we judge from their actions, think that if they have a school house, if they employ a teacher so many weeks, if their children are absent from home so many hours each day, their object is accomplished, their duty, as kind parents, is performed, and their children are in a hopeful way. But, if this is common sense, is it common sense? Is this the manner in which other affairs are conducted? Do the farmer, the mechanic, and merchant employ persons to do their labor, to transact their affairs, without ever going to see in what manner it is done? By no means. Ruin would be the consequence. Why then should not parents avail themselves of that good sense which they have on other subjects? Under such circumstances, the wonder ought not to be, that common schools are not more efficient, but that they succeed at all. I have heard parents say that they were glad that school was going to begin, for they wanted their children off out of the way. Now I would not blame people for wishing to be relieved from vexation, but I would blame them for so bringing up their children, as that their presence may be a burden to them, and that, particularly before their children, they should ever admit such to be a motive in sending them to school. Again, parents are negligent in procuring good teachers. They are too parsimonious. The great, and too often, the only question is, what price does he ask? nay, worse than this, and “thrice to be regretted,” they even inquire, what price does she ask? This, instead of being the first, should be the last question, and should follow as a consequence of other questions having been satisfactorily answered. Others cannot afford the expense, nor the time of their children after they are old enough to derive the greatest benefit from attending school: their sons and daughters must

be earning something, and they must themselves be saving all they can for them. But parsimony in this particular is robbery, and that too of the worst kind; in as much as it takes from the children the capacity, rationally to enjoy that very property which parents are so anxious to lay up for them, and prevents them from acquiring the abilities to gain more, should misfortune take from them what they have. In other countries, where a certain amount of property is necessary to render young persons eligible to marriage, the goal of human ambition, such anxiety about accumulating as much property as possible for children, is more excusable: but in this country, where talent is wealth, and character is nobility, it cannot be too severely censured, when it comes in competition with the education of children. Not that I would denounce wealth: I leave those ultra declarations of the utter vanity of all earthly good, for those to make, who do not possess them, who have not the ability, or the disposition to acquire them, or who have not the capacity to enjoy them. Industry in obtaining, and prudence in expending wealth, are imperative duties which are binding on all.—But, parents, allow me to ask you a plain question. Does the probability that your children, at middle, or mature age, will be wealthy, allowing this to be an object worthy of their, or of your ambition, depend more upon their character, their habits, their talents, and their ability to acquire and to save property? Your own good sense renders it unnecessary to ask the question in reference to their happiness, their respectability and their usefulness in the world.

There seems to prevail, to some extent, an erroneous idea, in reference to the qualifications of teachers. We often hear a teacher recommended as being qualified, simply by saying, he has been to the seminary, or he has been in college. So, of one who has been unsuccessful, we hear it sometimes said, I wonder at it, he was highly qualified. Now I take this to be a preposterous use of language. If he is qualified for his business, why does he not succeed. The fact of a teacher's having that amount of knowledge of the common branches of education, which it is absolutely necessary that he should have, ought to be considered as a matter of course, from the fact, that this of itself does not qualify him for the responsible station of a teacher. When one wishes to purchase a horse, does he inquire if the horse has four legs, if he has a head, if he can walk? Does he not rather ascertain whether he is “sound in wind and limb,” in what manner, how far, and how fast he can travel, if he is gentle, &c. So of a teacher, the inquiry ought to be, has he so thorough and so intimate an acquaintance with the branches that he is expected to teach, that he can present them before his pupils in a pleasing, novel, interesting, and correct manner: is he mild in his words, but firm in his purposes: is he noble in his sentiments, and warm in his feelings: has he a knowledge of

the phenomena of mind: is he engaging in his manners, and communicative in his speech: that is, is he qualified for his business in the same sense of the word as that in which we apply it to other persons.

### SCHOOL GOVERNMENT.

There are principles involved in school government which merit the most candid examination.—The popularity of the teacher, and the improvement of the pupils will, principally, depend upon the order and decorum which are preserved in the school-room. It is a question which has called forth conflicting opinions, and which claims the young teacher's early attention, *ought corporeal punishments, in any case, to be inflicted.* We shall not presume to mark out a course of procedure which the teacher should, in all cases, follow, yet a few suggestions, inculcating caution and moderation in the exercise of government, may not be deemed inappropriate.

The fact that most of the teachers of our primary schools, are young, and inexperienced, should dissuade them from taking any violent measures. While we admit that teachers sustain a very intimate relation to the scholars, yet the powers and rights of the parent have never been transferred to the teacher. The time has passed, and may it never return, when civil magistrates were empowered to inflict corporeal punishment upon the transgressors of law, and yet they are able to act as efficiently, as formerly, against the commission of crime. If the minister, to reclaim some heedless wanderer from duty, should even propose, as a corrective, bodily suffering, it would justly be esteemed an outrage upon propriety. A very different course is pursued, and one whose moral influence is infinitely better. In this way we treat men; but we should commence, at a very early period, to treat children as if they had acquired some character, and were able to reason respecting moral conduct. Law must be sustained in school, in the same manner, in which it is sustained in the community. There must be a popular voice in its favor. If the requirements of the master commend themselves to the better judgment of the scholars, they can be enforced, in nineteen cases in twenty, without resorting to bodily suffering. The scholars may be overawed by the exhibition of physical power, and, like the people with a standing army in their midst, made to yield to any course of conduct, but what will be the moral effect? The most disastrous imaginable.—Some of the great objects contemplated in early education will be subverted.

Some teachers, needlessly place themselves in those circumstances which frequently become a source of much perplexity. It is not necessary, in common schools that law should be stated before the circumstances demand it. Enjoying the benefits of an enlightened community, each scholar knows what character he should sustain. An

appeal to a sense of propriety is usually more successful, than to refer to a violated law. There is some necessity that our higher Institutions should publish their general rules, that the community may be better acquainted with their real characters, but nature herself dictates the general principles which should characterize the government in common schools. No principle necessary for good order should ever be violated with impunity. While we inculcate mildness in the administration of government, we would, as zealously, inculcate unflinching perseverance in carrying out good principles. Any vacillation of purpose for want of sufficient moral courage, or for any interested motive will entirely destroy the influence of the teacher. Let it be distinctly understood that good order must be maintained even if no mental improvement should be gained. There may be cases in which a fear of pain may deter the scholar from an incorrect course, and corporeal punishment be strictly demanded, yet such cases are rare, unless the child is not of sufficient age to be influenced by high moral and religious motives. But we cannot hold, in too great detestation, the "practice of some teachers of pinching the ear, pulling the hair, beating about the head with a book, a cane, or whatever happens to be in hand; these, if once indulged, grow into habits of equal severity and caprice. They are in their own nature vulgar and offensive, and being received as indignities, never fail to excite the resentment of the sufferer."

Observation fully confirms, we think, the principles laid down in this article. What discipline is exercised by our most popular and successful teachers? It is mild but undeviating; moral power instead of physical is exercised. On the other hand, in most cases where the teacher is ejected from his school, the infliction of corporeal punishment is the primary cause. Should the teacher, after the excitement which attends the violation of law, be passed, call the scholar aside, and show him clearly, and affectionately, the evil attending his course, he might, usually effect a restitution, and highly exalt himself in the estimation of the pupils.

But there are exempt cases when kindness cannot win, and affection cannot move. Such instances may occur, but they are not so frequent as many suppose. That headstrong lad feels not the softening influence of affection because it has never been exercised toward him. He has been represented to the teacher, as one who is fully bent on evil, and has always been treated with severity. No wonder that he feels no sympathy with his teacher, for he has always been the subject of suspicion and disregard. Let him feel that he has a friend, and he may yet be restored. In cases of decided obstinacy, let a true representation be made to the parents or guardians. They have a fearful responsibility in this matter. Should this method fail, let the scholar be removed at once from the privileges of the school. Such a course

is due to the orderly scholars; their morals should neither be corrupted, nor their attention diverted, by those who cannot be moved by any power which the teacher may lawfully exert.

### SPELLING.

In no department of elementary education, are the younger class of the community more deficient, than in orthography. Our own epistolary correspondence is not the only evidence we rely upon, but we are told by some whose observation has been more extensive than our own, that they have become so accustomed to incorrect spelling, that they regard it as an almost necessary imperfection in ordinary scholarship. Nor is the deficiency confined to those who make no special pretensions to learning, but school teachers academicians and collegians are to be met with, who perhaps from mere inadvertency are very bad "spellers." In truth so frequent were these deviations in several "specimens" which recently came under our inspection, that we well nigh concluded, that in their zeal for improvement they had adopted a new system of English orthography. From subsequent examination, however, we found so little exhibition of *method*, that the system, if it was one, possessed but little scientific merit.

Were incorrect spelling a matter of difficult remedy, or were it in a department of education seldom made use of in the transaction of the ordinary business of life, it might in some degree be tolerated. but so palpable and gross a fault is it, and usually accompanied with such a train of kindred errors, that it imperiously demands the attention of every common school instructor. We have long been of the opinion, that the exercise of spelling should not be confined to the *spelling book*. Whole columns are there to be found of such polysyllables as, "hypnotic," "hydromantic," "intorsion," "inchoation," "impertransibility," which if they were consecutively committed to memory, would be of no advantage to the learner;—and on the other hand, there are a multitude of words of every-day use, that are not to be found in the spelling book. As we learn to spell, chiefly if not exclusively, that we may write correctly, these two exercises, should, as soon as possible, be connected with each other. If then, the usual course be pursued with children until they are able to read; and the spelling lesson be then combined with the reading; and as soon as they are able to write a legible hand, with their writing, it would accomplish a speedy and effectual improvement. In these writing exercises, every scholar should be provided with a slate; and the teacher should give out such words from the reading lesson, as he deems most likely to be mis-spelled. When a sufficient number has been written down, let each pupil exchange slates with his neighbor, and let the results be separately read aloud. This method is not only more practical than the vocal exercise,

but the scholar is led to notice more attentively his errors. An additional method is, to have the larger scholars once in two weeks present to the teacher for inspection and correction, some familiar form of composition. In this way several important ends will be combined in a single exercise.

While teaching a common school several years since, we adopted the plan of writing down such words as we found our pupils in the habit of misspelling. By repeatedly calling the attention of the school to the list we had collected, we succeeded in correcting many of their habitual errors.—We subjoin a brief sample of our vocabulary, giving in the second column, the manner in which they are very frequently spelled.

Wednesday.	Wensday.
February.	Febuary.
Newbury.	Nuberry.
Wholly.	Holey.
Untill.	Untill.
Balsam.	Bolsun.
Business.	Bizness.
Many.	Meny.
Brief.	Breef.
Piece.	Peice.

To torture words in this manner is worse than the "twistings and disjoinings of a Catholic Inquisition." Oh! what agony in such spelling.

G.

#### ARITHMETIC.

One great fault, in the manner of teaching Arithmetic, is, that teachers do not treat the subject with sufficient independence. There seems to exist, in the minds of many, a vague idea that there is some sovereign, mysterious necessity about the rules laid down in the Arithmetics: certain arcana which are not to be penetrated, except perhaps by the author. The evils resulting from this illusion are many. If the teacher never exerts the energy of his own mind on the subject, he of course does not call out that of the minds of his pupils. Hence a servile dependence upon arbitrary rules, and the puerile practice of copying off scores and hundreds of sums in the manner in which some one else has wrought them; a practice which ought never to be tolerated. But the more enterprising pupils are obliged, in consequence of the above mentioned fault, to go through the Arithmetic repeatedly, till they can remember the manner of doing the sums: and then many flatter themselves with the idea of their being Arithmeticians, when they may not perhaps have three pence worth of real knowledge on the subject. Another evil is, that when the pupil comes to a question that may be a little out of the common way of stating questions under that particular rule, having never seen the principles illustrated on which its solution depends, and having never been taught, either by precept or by example, to investigate, his only alternative is to apply to the

teacher, who must either refuse him, or leave all other business, and work it out. This is wrong. The teacher leaves his station and becomes a school-boy, by so doing. He should not descend to such drudgery. The appropriate business of a teacher is to direct the energies, and to form the minds of his pupils. And can one mind sway, at will, many other minds, when it is itself exhausted, perplexed, and confused? Let it not be said that there is not sufficient time in common schools to illustrate and to explain the principles on which the rules of Arithmetic are founded. If so, something is wrong; the school is too large, or too many branches are pretended to be taught. I can say from experience, that pupils can be made to understand the principles, the necessity, and the propriety of the rules of Arithmetic in less time than they can commit them to memory: and the superior intelligence, certainty, and despatch with which they will afterwards execute their operations is most truly gratifying. Besides, the practice of learning things, as the French say it, au fond, is of incalculable benefit to the intellectual habits of the pupils. I will now give a few examples, not because they are better than others can give, but simply to illustrate what I mean by insisting on explanations, instead of being wholly dependent upon rules, hoping that others may take occasion to profit by the hint.

**Question.**—Why do figures increase ten-fold, from right to left? **Answer.**—Because nine is the largest number that we represent by a single figure. Let us illustrate. We might represent a single object by 1, two objects by 11, three by 111, four by 1111, five by 11111, and so on; but this would be tedious. We represent one object by 1, two by 2, three by 3, four by 4, five by 5, six by 6, seven by 7, eight by 8, nine by 9, and so we might proceed, using a character for each particular number; but this would require hundreds of thousands of characters, and years to learn their names and powers. Hence the necessity of figures having a relative as well as an absolute value. Thus, we express nine by a single character, 9, and ten by two characters, 10, the 1 having ten times its absolute value, by occupying a relative position one degree to the left, and the truth of the answer, above given, appears at once.

There could be no possible difficulty in employing a greater, or a less number of characters, and then the value of figures would increase accordingly. If we were to use only five characters, having an absolute value, then the value of figures would increase six-fold from right to left; were we to use fifteen, then they would increase sixteen-fold. To use a larger number would render operations by figures far more rapid, and to use a less one would render them easier for young minds.

**Question.**—Why do we commence on the right, in adding numbers, and why do we carry by ten?

**Answer.**—We commence on the right because whenever the sum of a column is more than can

be expressed by a single figure, we can carry the excess into the next column on the left, and thus save the necessity of putting down the sum of each column separately, which we cannot do in commencing on the left; and we carry by ten, because nine is the largest number which we can express by a single character. Let us illustrate.—

Take this example and add it, commencing on the left.

3 5 8 6 4 3 2
1 1 0 1 1 0 1
0 2 1 0 2 1 2
3 8 9 7 7 4 5

Here we meet with no difficulty, because the sum of each column can be expressed by a single figure. Take now a second example, and commencing on the left, put down the sum of each column separately, continuing the operation till a complete result be obtained.

6 7 5 8 3 2 7 5 Thus we have to go through 5 2 1 4 9 1 0 6 with four separate additions. 8 3 2 7 5 0 8 2 Take now the same example,

and add it, commencing on the right. 6 7 5 8 3 2 7 5

1 9 8 3	5 2 1 4 9 1 0 6
1 2 1 9 1 5	8 3 2 7 5 0 8 2
1 7 1 3	

1 2 9 7 4 6 8	1 2 1 7 1 3
1 0 1 0	1 9 1 9 1 5
	8 3

2 0 2	1 0 2 1 0 7 4 6 3
1 0 0 7 4 6 3	1 9

2 0 3 0 0 7 4 6 3	1 0 0 7 4 6 3
	2 0 2

2 0 3 0 0 7 4 6 3
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Thus we have again four distinct additions.

Now take the same example, and commencing 6 7 5 8 3 2 7 5 on the right, carry the excess 5 2 1 4 9 1 0 6 into the next higher place, 8 3 2 7 5 0 8 2 performing the operation in the mind, without putting 2 0 3 0 0 7 4 6 3 down each sum separately. Here is manifestly an advantage in commencing on the right, since we can obtain a complete result by a single operation. The reason of our carrying by ten, has been already illustrated.

**Question.**—Why do we, in subtraction, add ten to the upper figure when it is less than the lower one? **Answer.**—Because ten is the least number that will remove the difficulty. Take this example. 8 5 7 5 4 6 Here we can say, 8 from 6, 3 remain: 1 3 9 0 3 main: 0 from 4, 4 remain: and as 9 cannot be taken from 5, let us 6 4 3 6 4 3 add 7 to each figure, and say, 7 to 5 make 12, and 7 to 9 make 16: but we cannot take 16 from 12, and the difficulty remains unre-moved. Take the same example, and adding 15 to each number, say 15 to 5 make 20, and 5, of the 15 to 9 make 14, and 14 from 20, 6 remain: and then add the remaining 10 to the lower number, that is, add 1 to the next figure, and say, 4 from 7, 3 remain. But ten will produce the same

result, and is far more convenient, and we have already seen that a number less than ten will not remove the difficulty. The procuring cause of ten's being the right number has been given in answering a previous question.

**Question.**—On what principle is this done?—**Answer.**—Adding the same number to two other numbers does not alter their difference. Thus, the difference between 15 and 9 is 6: add 8 to 15 and to 9, and they become 23 and 17: their difference being 6, as before. Applying this principle to the example above, we may say, 3 from 6, 3 remain: 8 from 7, 4 remain: 10 to 5 make 15, and 9 from 15, 6 remain. But as 5 stands in the third place from the right, by adding 10 to it we of course add 1000 to the upper number: but we must add 1000 to the lower number, standing in the fourth place.

**Question.**—Why do we commence on the right to subtract? **Answer.**—We save altering previous figures in the remainder. Take again the same example.

8 5 7 5 4 6

Here, commencing on the left, 2 1 3 9 0 3 we say, 2 from 8, 6 remain: 1 from

5, 4 remain: 3 from 7, 4 remain: 6 4 4

10 added to 5 make 15, and 9 from 15, 6 remain: but here we have not added the same number to the lower, as to the upper number, so the remainder is too large, and the previous figure, 4, must be changed to 3. By commencing on the right, we avoid the necessity of making such changes.

M.

## GEOLOGY.

**Coal.** It is impossible to ascertain at how early a period mineral coal was first used for fuel. Theophrastus, who flourished about three hundred years before the Christian era, is the earliest author who has related that coal was applied to useful purposes. He described coal as an earthy substance, which burnt like wood coal and was used by the smiths. The English coal mines have been worked for many centuries. "From Horsely, it appears that there was a colliery at Benwell about four miles west of Newcastle-upon-Tyne, supposed to have been actually worked by the Romans; and it is evident from Whitaker, that coal was used as a fuel by the Saxons." The first charter for the license of digging English coal was granted, according to Rees, by King Henry III, in the year 1239, and it was then denominated *sea-coal*.

It is one of the most interesting features connected with the natural history of the earth, that the plants which formerly covered the face of nature have been, to a very great extent, preserved for the use of man. In many coal formations, we are enabled to determine the different varieties of plants of which the coal is composed, and in some instances, the wood has suffered only a partial change. When the ligneous or woody structure is clearly discernable, it is called *lignite*. Fossil shells, and delicate impressions of leaves occur in

great abundance in coal formations. The form of coal beds is *basin shaped*, hence it is inferred that the coal beds were formed in lakes or marshes, the wood of which it is composed, having been *drift* wood carried down by some river which emptied into the lake. The layers of coal are very frequently separated from each other by beds of sandstone, grit, shale, &c., which would necessarily occur, if the coal had been formed under the circumstances which we have named.

The two principal varieties of coal are called *anthracite* and *bituminous*.

The anthracite embraces the columnar and mineral carbon. These varieties are distinguished, simply by the different forms in which they occur; the former having been broken by fissures so that it presents the appearance of having been composed of irregular columns, possessing a slight degree of lustre; the latter occurs in thin layers and in masses containing a delicate columnar composition, and is distinguished by its silky lustre.—Anthracite is principally composed of carbon or charcoal without any bitumen. It burns without flame or odour, and deposits a quantity of earthy residue. It is rarely found in Europe, but in this country, it forms vast deposits. "The anthracite region of the Susquehanna is between sixty and seventy miles long, and about five broad, constituting a trough or elongated basin through which the Susquehanna river, and Lackawanna creek flow." The anthracite of Pennsylvania is estimated to cover an extent of about 624,000 acres. "In 1838 the quantity sent from the coal region, exclusive of that shipped by the Susquehanna was 723,813 tons, valued at more than 4,000,000 dollars." Anthracite has been found only at a few localities in New England. An extensive bed has been opened at Portsmouth, R. I., and also at Mansfield, Mass.

Bituminous coal is lighter than the anthracite, and does not usually possess so brilliant a lustre. It is easily ignited, burns with flame and emits a bituminous odor. Some varieties, on the application of heat, become broken into fragments and afterwards cemented together in one mass. Before it is used in smelting furnaces, it undergoes a process called *coking*, which consists in driving off the sulphur and bitumen by fire. This variety of coal is more distinctly stratified than anthracite;—its layers separating with facility at intervals from one-eighth to three-fourths of an inch. Bituminous coal occurs principally on the west side of the Alleghany mountains. "It is supposed that about 460,000 tons of bituminous coal are consumed in Pittsburg, and at the salt-works on the Kiskiminetas, &c., besides what is sent down the river Ohio, to Cincinnati, New Orleans, and other towns."

Bituminous coal is found in narrow veins, in different places, in the valley of the Connecticut, but not in sufficient quantities to repay the labour of obtaining it. The coal region in the United States

extends from Virginia, probably, to the Rocky Mountains, and promises an inexhaustible source of wealth and utility to the nation.

**Calcareous rocks.** This division embraces all those rocks which are composed of lime and carbonic acid—the limestones and marble formations. Limestone occurs in almost every section of our country, and in this vicinity, it is particularly abundant. The blue limestone is found in detached masses or boulders in considerable quantities in Barre, Vt., Plainfield, Vt. and in the vicinity.—Grey limestone is abundant in Newbury, Vt. and in Haverhill, N. H. At this last locality is found the coarse granular limestone, and also a variety, containing a quantity of magnesia, called *dolomite*. When any limestone is sufficiently hard to take a fine polish, it is called marble. The marble of Middlebury, Vt. and of Plymouth, Vt. is richly variegated and susceptible of the highest polish.

**Conchitic limestone** contains shells and organic remains, and some of the harder varieties, when polished, are highly beautiful. Most of the limestone of New-Hampshire, and Vermont, is what is usually called *primitive*, containing no organic remains. In the vicinity of Lake Champlain the more recent limestone formation is found containing large quantities of shells. At Sutton, Vt., just below the surface of the earth, is found quite an extensive bed of shells, and those which have not been exposed to the air, retain, very perfectly, their original form. So abundant are the shells that they have been dug and burnt for quick lime. There are some varieties of carbonate of lime, although not important in the constitution of the earth's surface, yet are interesting to the young geologist and mineralogist.

**Argentine or Slate Spar** is distinguished by its curved or undulating layers, which possess a shining and pearly lustre. Good specimens are obtained at Southampton, Ms.

**Calcareous Tufa or Travertine** is usually light and porous, and sometimes appears as if it had been penetrated by worms in all directions. This is a recent formation, and generally deposited from the water of carbonated springs. These are usually of a high temperature, and hence, occur more frequently in volcanic countries. In the primitive regions of Vermont, however, travertine is found. An interesting deposit occurs at Williamstown, Vt. A spring issues from the side of a mountain, and flows a short distance, and then disappears through some fissures of the mountain. A considerable quantity of travertine has been deposited along the bed of the stream at that place. The Clarendon spring contains considerable lime, which is deposited more compactly than the Williamstown travertine.

D.

**IRON.**—In Pennsylvania in 1832 upwards of 90 furnaces and 100 forges produced nearly 90,000 tons of pig iron, blooms, bar iron and castings.

Delaware has a school fund of \$170,000.

## ITALY.

Italy! the land of music, once the seat of refinement, literature, and power. Thou art beautiful, even in thy ruins. From the heights of the Palatine we look down with wonder on the eternal city, which once gave laws to a Hemisphere, chained monarchs to its chariot wheels, and made earth and sea groan beneath its armies and navies. She swayed her sceptre over the mighty fabric of Grecian liberty, and the proud Colossus of ancient Rhodes. Will not the reversed order of Jupiter unchain Prometheus from mount Caucasus, that he may inspire the ashes of Romulus to build again the walls and temples of Rome?

Oh! Italy thou art fallen! but thou art lovely still. With all thy degeneracy, thou art dear to the poet, the scholar, and the statesman. The genius of departed greatness still inspires thy ruins; the remains of thy uncovered temples proclaim the sincerity of thy devotions. But alas! thy Pantheon is now devoted to a false and inimical religion. The sacred altars of Venus and Pallas afford sanctuary only to the brigand and the homicide.

The forum and rostrum that once resounded with the eloquence of Cicero, and Cato, is now vocal with the entreaties of the mendicant, addressing the cold hand of charity. The brazen gates of the Capital are unhinged; its dome is inhabited by the lone birds of night, who fearlessly congregate amid its mouldering ruins. Her sylvan shades and sacred groves where zephyrs tuned the harps of her bards are now desolate, or the sacrilegious hand of violence has levelled them with the dust. Her vestal virgins no longer kindle the holy fire or watch around the sacred Palladium. Saturn, dethroned by the Titans, no longer extends the golden age by teaching arts and morals to the people of his realm; and the peaceful reign of Janus ended as Vandalism tolled the knell of fallen Rome. Rhea, the mother of the gods is no longer revered as a divinity. Jupiter no longer hurls Cyclopean thunderbolts, but passive sits on his mountain-throne, the hermit of Olympus. Juno has silently retired to her shady Argos; and Neptune shakes his trident in vain to silence the powerful breath of *Æolus*.

Dark Pluto frowns in Tartarus, whose gate is guarded by Cerberus, and peopled by the ceaseless labors of Charon. Light-hearted Apollo still lingers around his native Delos, inspires the Italian bards, and sings with the chaste Diana surrounded by her mountain Nymphs.

Minerva and Mars no longer kindle emulation in her Senate and armies. Lovely Venus broods in silence alike over the decision of Paris and the wrath of Juno.

Aurora, bright queen of the morning, still gilds thy temples, and spires, and awakes the laborer to his toil. Her sister Luna still rolls her chariot through the skies,—her feeble rays serve to mark the brigands way, or guide the steel to the victim's heart.

MARCUS.

## IMAGINATION.

When man roved sinless amid the bowers of Eden, with every faculty of his mind unperturbed, equally noble in intellect, and beautiful in morals, truth and goodness were as faithfully mirrored in the bright creations of imagination, as are lights and shadows in the chrysal lake. They were stamped as with Heaven's own signet, on each verdant leaf, and blushing flower, as well as in the higher creations of His hand, who pronounced all "very good."

These lessons of the heart, nature's eloquent interpreter read to man in sweet, and silent language. Then, her magic influence shed a halo of beauty over all the Creator's works. It beamed in the mild lustre of the morning, nor faded beneath the evening star. If, as we may suppose this noble faculty, contributed to the happiness of the *blest* in Paradise, and added a new, and ever varying beauty to a world just merged from chaos, and glowing in the freshness of its spring-time, how much more is its influence now required, to cast aside that lowering and gloomy veil, that makes earth a sad and weary place of care and sorrow, and to reveal the sunshine of happiness, the concealed poetry of life, that breathes and glows in the works of nature.

Though sin has tarnished her snowy drapery, it cannot fetter her tireless wing,—and like a star of light unchained from its orbit, and recreant to law, she is now of earth, and now of heaven. Unlimited by that Power, "that lays his interdict on orbs, and seas, to keep them in from wandering," in her loftiest flights, she soars far beyond mortal ken, and with daring wing, essays to pass "the flaming bounds of space and time." As the imaginative astronomer studies deep into the lore of the starry heavens, she lends her aid to bring him nearer to the eternal throne. As she leads him far into the measureless depths of the stars, and bids him listen to the voiceless music of the spheres, he is lost in admiration of the wisdom, and power of that Being, who, with one creative word hurled them into space.

The cultivation or neglect of the imagination has, undoubtedly, an important influence on character. Chastened and purified by religious principle, it may greatly increase the amount of human happiness. But neglected, as it too often is, in education, and supposed to belong exclusively to the poet, painter, or novelist, it still holds a commanding influence over human destiny, and exerts a mighty power for weal or woe. Joined with ignorance, credulity, or guilt, it calls up more unearthly and terrific phantoms, than ever magician's wand conjured from the "vast deep." Even the cultivated mind of mature age can witness to the deleterious effects of tales of terror, whispered around the winter's hearth. These are often so impressed on the childish imagination, as to become interwoven with the texture of the mind, and thus give

a coloring to all after life. Allied to this, and as the effect of a rich but neglected imagination, is the habit of building "castles in Spain." Unguided by principle, and directed to no subjects of useful, and pleasing interest, restless fancy seeks amusement from her own busy creations, and delights to "give to airy nothings, a local habitation and a name."

But it is not of the sublimest efforts of this faculty, as poetry, painting, and the sister arts, that we would speak, though they are a source of the purest pleasure; but it is of the poetry and romance of real life, and nature, a boundless field, open to all, and which all may highly enjoy, without possessing either the painter's skill, or the poet's fire.

Is not the wide universe of nature, a beautiful revelation from Deity, harmonious with his sacred word? Imagination interprets its unwritten language, and impresses it on the character. Here we may find passages of the tenderest pathos, and the most exalted sentiment that appeal directly to the heart.

Gazing on the sweet flower, cut down at our side, in all its infantile loveliness, imagination lingers not with its beauteous clay, neither rests in yonder cloud, whose varied tints of beauty seem just brushed from the angel's parting wing, as he bore the stainless spirit to Jehovah's throne; but it wings its tireless flight, till it views the lost one in His arms, that commissioned the destroying reaper and learns,

"'Twas for the Lord of Paradise  
He bound it in his sheaves."

"I will that those thou hast given me, be with me where I am." Will not the memory of the loved one's death-scene soften the heart, when the flowers of thrice its short-lived summers lie withered on its grave?

In such proportion as the mind is worthily occupied in early childhood, and the imagination is directed to the beautiful, and the pure, will the character rise in the scale of intellectual and moral excellence; and instead of being imbued with false feeling, and sickly sentiment, the youthful imagination will "learn spring's mildness, summer's strength, and grow mature as autumn, pure as winter's snows."

HARRIET.

## THE COUNTENANCE, AN INDEX TO THE SOUL.

It is interesting to mark the human countenance, and to trace the deep-drawn characters, inscribed on this mirror of the soul. Moralists may contend that words and deeds are the only revealers of the heart, and the phrenologist may point to the cranium, as the infallible stamp of the mind, but where can we better read the character than in the expressive outline of "the human face divine?" What volumes are revealed in the soul-speaking eye. No language can utter its impassioned eloquence, or breathe its melting tenderness. It is

the *language of the heart*, and no fitter emblem can be fancied of the communion of minds in the spirit-land. Falsehood may sit on the lips, but ever-radiant *truth* beams from the eye. In that deep fountain are revealed the passions that sway the heart;—love, hatred, grief, joy, envy, jealousy and revenge, are mirrored there.

The brow is the seat of intellect, and on its tablet we may discern the strength or weakness of the mental powers. There is meaning too, in the lip's curve, as it speaks of pride or gentleness, of bitterness or affection. What tales, that the heart would fain conceal, are often told in the starting tear, the smile, or the mantling blush.

On every human countenance are painted these lineaments of the mind—and the heart's history is engraved there, sometimes in the bright characters of smiling joy, and often in the deep lines of sorrow and suffering.

As gleams of sun-shine play across the waving fields of Autumn, intervening light and shadow, so in the chequered scenes of human life, hope and fear, joy and grief alternately predominate in the heart, and give their changeful expression to the countenance. Is beauty prized? Then may it be heightened by the adorning of the intellect, and the cultivation of the heart. Are the gifts of nature bestowed sparingly? There is a richer and more lasting treasure, which "lies open in life's common field." We may tire of mere beauty of feature and complexion, but there is an un fading charm in the beauty of expression. As the earthy casket, though moulded by a plastic hand, cannot compare with the priceless, invisible gem within, so personal beauty has no value in comparison with the *beauty of the spirit*.

Let mental and moral worth be "our being's end and aim," and they will be stamped in living characters on the countenance, and will ensure a supremacy in the hearts of the worthy and the loved. And when the spirit, like an imprisoned bird, escapes the narrow bounds of its earthly habitation, and wings its flight to immortality, it will leave its beautiful impress on the features of the cold clay, and its image will long survive in the heart of the mourner.

ALTHEA.

#### LANGUAGE OF NATURE.

To him who, in the love of Nature, holds Communion with her visible forms, she speaks A various language.—*Bryant*.

'Tis night! The winds are hushed to repose, and not a cloud obscures the deep sapphire of Heaven. Bright, beautiful and glorious is the scene, while Tranquility, like a dove, sits brooding o'er it. 'Tis one upon which angels from the heights of heaven might gaze with admiring wonder and gratitude. And yet mortals, frail and erring mortals, are permitted to look upon it. Even from me, this privilege is not withheld. I turn my eyes on the heavens above, and cast them on the earth beneath.—The stars are shining in beauty, and the moon is

seen walking in brightness. The mountains tower in majestic grandeur to the skies, and the wide-spreading wood is clad in its robe of everlasting green. The meadows are extended in all the luxuriance of summer, and the river is beheld gently winding its way, and gladdening the earth as it passes onward. And each—above, beneath, and around, in a still small voice proclaims, 'The Eternal Mind.' Each testifies—Infinite Wisdom planned, Infinite Power performed,—and each bids us adore the hand that made it.

And if rightly interpreted, such are the words uttered in every movement of nature's vast machine,—such the language inscribed upon every object which goes to make up the mighty fabric of the Universe. We may read it upon the smallest flower, no less than upon the illimitable expanse of Heaven, illuminated by the glorious sun, graced by the silver moon, and decorated by countless orbs of living light. 'Tis whispered in the hum of the insect, in the sigh of the zephyr, in the murmur of the rivulet, as well as proclaimed in the roar of the hurricane, the hoarse roll of the deep-toned thunder, and the united voice of a thousand cataracts. And lives there upon earth a being who heeds not the teachings which Nature addresses to him,—who cherishes not one feeling of gratitude to Him, who spread out the heaven like a curtain, who adorned it with such glorious imagery, and formed his foot-stool a fit residence for the children of men?

Yes, there are those to whom nature is as a sealed book;—who contemplate, without one joyous emotion, this bright, and beautiful earth,—who see, but *admire* not. And there live those, also, who see, and admire, but feel nothing of gratitude, to the Author of all these wonders,—who pay homage at the shrine of Nature, but whose minds soar not to the great Creator.

MARY.

#### SALUTATORY POEM.

*Sung at the Ladies Exhibition,  
NEWBURY SEMINARY.*

Hail, happy day! of freedom's smile,  
To thee, glad voices sing.  
And knowledge pure, delights the while  
Her choicest gifts to bring.  
She decks the brow with verdant wreaths,  
She lights the eye with joy,  
She speaks, and to the soul bequeaths  
What, should the tongue employ.

She breaks the bands of error's night,  
She raises the oppress;  
She sheds around celestial light,  
And makes our nation blest.  
She gives to friendship's golden chain  
A power, before unknown,  
No change shall break its sweet domain,  
Till life's last hour has flown.

All hail! Ye cherished, favored band;

Of Guardians, Teachers kind;  
Girt with her truth, and power ye stand,  
To train the immortal mind.  
We come to greet, and cheer you on,  
To bring our offerings true;  
We come to extol the Holy One  
To whom all praise is due.

DELIA.

#### VALEDICTORY POEM.

*Sung on the same occasion.*

The sky is mild above,  
Bright is the world around us;  
And gentle thoughts of love  
In happy ties have bound us.  
Fair is the gently flowing stream  
The ear with music greeting,  
And fairer friendship's sacred beam,  
The heart's fond wishes meeting.

Sweet, smiles the blushing flower,  
Its fragrance o'er us stealing;  
Sweeter affection's power,  
The soul's pure depths revealing.  
Pure shines the quiet star of ev'n,  
Its radiance round us flinging;  
Purer the choicest gift of Heaven  
Congenial souls entwining.

The heart is full of glee,  
Bright objects ever meeting;  
But oh! it may not be,—  
The fairest things are fleeting.  
The mild blue sky that smiles above,  
With gloom is oft enshrouded,  
The brightest dreams of earthly love,  
By sorrow's night are clouded.

Oft in this sacred spot,  
Our hearts were turned to gladness;  
Now grief's in every thought,  
Now swells each soul with sadness.  
Deep memories of the happy past,  
Are thronging darkly o'er us,  
And thrilling thoughts come rushing past,  
To dim the scene before us.

But there's a brighter home,  
Where breathes no sigh, nor weeping  
Where every joy is known,  
Its sacred promise keeping.  
There parted loved ones, blissful meet,  
There purest joys are springing;  
There may our ransomed spirits greet,  
A savior's praises singing.

R. H. C.

LITERARY PURSUITS.—These studies are as food to us in our youth, they delight us in more advanced years, they are ornaments to a prosperous state, they afford us a comfort and refuge in adversity, they amuse us at home, they are unembarrassing to us when we are abroad, they pass our nights with us, they accompany us on our travels, and in our rural retirement.—*Cicero*.

# REPORT OF THE SCHOOL COMMITTEE OF THE CITY OF BOSTON, ON THE EXPEDIENCY OF INTRODUCING MUSICAL INSTRUCTION INTO THE PUBLIC SCHOOLS.

[Concluded.]

There are said to be, at this time, not far from eighty thousand Common Schools in this country, in which are to be found the people who in coming years will mould the character of this democracy. If Vocal Music were generally adopted as a branch of instruction in these Schools, it might be reasonably expected that in, at least, two generations we should be changed into a musical people. The great point to be considered in reference to the introduction of Vocal Music into popular elementary instruction is, that thereby you set in motion a mighty power which silently, but surely in the end, will humanize, refine, and elevate a whole community. Music is one of the fine arts. It therefore deals with abstract beauty, and so lifts man to the source of all beauty, from finite to infinite, and from the world of matter, to the world of spirits and to God. Music is the great hand-maid of civilization. Whence come these traditions of a revered antiquity, seditions quelled, cures wrought, fleets and armies governed by the force of song,—whence that responding of rocks, woods and trees to the harp of Orpheus,—whence a city's walls uprising beneath the wonder-working touches of Apollo's lyre? These, it is true, are fables, yet they shadow forth beneath the veil of allegory, a profound truth. They beautifully proclaim the mysterious union between Music, as an instrument of man's civilization, and the soul of man.—Prophets and wise men, large minded law-givers of an olden time understood and acted on this truth. The ancient oracles were uttered in song. The laws of the twelve tables were put to Music, and got by heart at school. Minstrel and sage are, in some languages, convertible terms. Music is allied to the highest sentiments of man's moral nature, love of God, love of country, love of friends. Wo to the nation in which these sentiments are allowed to go to decay! What tongue can tell the unutterable energies that reside in these three engines, Church Music, National Airs, and Fireside Melodies, as means of informing and enlarging the mighty heart of a free people!

Foreign examples are before us. In Germany, the most musical country in the world, Music is taught like the alphabet. In Switzerland and Prussia, it is an integral part of the system of instruction. Regenerated France has, since the Revolution of July, appropriated the same idea. Her philosophic statesmen are trying to read the darkness, and prepare their country for the future that is before her. "We cannot," says M. Guizot, "have too many co-operators in the noble and difficult enterprise of amending popular instruction." England still halts in the march of reform. We ask the attention of the Board to the following pas-

sage from a work of extraordinary eloquence and power recently published in England, written by Mr. Wyo, a member of the British Parliament. "Music," says this writer, "even the most elementary, not only does not form an essential part of education in this country, but the idea of introducing it is not even dreamt of. It is urged that it would be fruitless to attempt it because the people are essentially anti-musical. But may they not be anti-musical because it has not been attempted? The people roar and scream, because they have heard nothing but roaring and screaming, no Music from their childhood. Is harmony not to be taught? is it not to be extended? is not a taste to be granted? Taste is the habit of good things—*je ne suis pas la rose, mais j'ai vécu avec elle*—it is to be caught. But the inoculation must somewhere or other begin. It is this spathy about beginning that is censurable, not the difficulty of propagating when it has once appeared. No effort is made in any of our schools, and then we complain that we had no grammarians." With these sentiments your Committee heartily concur. Let us than show this spathy no longer. Let us begin. Prussia may grant instruction to her people as a boon of royal condescension. The people of America demand it as their right. Let us rise to the full dignity and elevation of this theme.

## STATISTICS OF EDUCATION.

From the statistics of the late census, we have compiled the following table, showing the comparative state of the means of Education, in Vermont, New Hampshire, Massachusetts and New York.

No. of Inhabitants, over 20 years of age, who can read or write.	No. of Colleges, Academies and Grammar Schools.	Primary and Common Schools.	Whole No. of places of Education.	No. of Students in Colleges.	No. of Scholars in Academies.	No. of Scholars in Common Schools.	Total attending Schools of all kinds.	The places of instruction average to the inhabitants, one to every,	Whole No. of Scholars average to the inhabitants, about one to every,	No. over 20 years of age, who can read or write.
Vt.	291,180	3	45	2,370	2,418	2,110	6,898	120	3-1-2	1,940
N. H.	284,481	2	63	2,110	2,175	430	2,605	180	3-1-4	927
Mass.	797,796	4	348	3,618	3,618	766	8,002	204	4-1-4	3,196
N. Y.	2,432,935	12	602	10,876	11,890	8,985	30,918	213	4-2-3	43,871

From the above, it will be seen, that the facili-

ties for the general education of the people are greater in New Hampshire and Vermont, than in the two other States; and are probably greater than those of any other States in the Union.

**THE ROD!**—You might as well expect to go out into the Pacific Ocean, and lead home a whale around Cape Horn by moral suasion, or persuade a lion to hold still, while some unfeeling son of Aesculapius wrenched every tooth from his head, as to attempt to govern men or children, wholly by moral suasion. First of all, teach your pupils, what law is, and then if they disobey, give them practical illustration of what penalty is.

Rev. C. J. Lovejoy.

**PETROLEUM SPRINGS.**—Petroleum is a liquid mineral pitch so called because it is seen to ooze like oil out of the rock. Many springs in Modena and Parma, in Italy, produce petroleum in abundance; but the most powerful perhaps, yet known, are those on the Irawadi, in the Burman Empire. In one locality there are said to be 520 wells, which yield annually 400,000 hogheads of petroleum.

Lyell.

There are 3000 mines in Mexico. The produce of the mines continued increasing till the commencement of the late revolution, at which time the sum total was about 125 millions dollars annually. The annual average produce at present is not more than 12 million dollars.

Education amongst the great body of the people is more general in Scotland than in any other part of the British dominions: every parish has its respective school, in which knowledge can be obtained at a reasonable rate.

There are upwards of 22,000 common or primary schools in Prussia, to which all subjects are required by law to send their children after they arrive at a certain age.

**A QUERY IN GRAMMAR.**—Where the seats in a school house are so high, that the children cannot reach the floor with their feet, and so narrow, that they have to hold on with both hands, must not the verb "*to sit*," be an active verb?

## NEWBURY SEMINARY.

The Spring Term of this Institution will commence on Wednesday the 24th inst. and will continue twelve weeks.

We again, respectfully solicit all who feel an interest in the progress of Popular Education, and in the encouragement of Literature among ourselves, to aid in increasing the list of our subscribers.

Postage on this Periodical, one cent if within 100 miles, or within the State; otherwise, one and a half cents.